

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An access network adapted to communicate with a mobile station terminal and a core network portion of a public mobile network, said access network comprising:

a plurality of local base stations each defining a mini-cell and adapted to communicate with mobile stations terminals located in said mini-cell over an unlicensed-radio interface; and

an access network controller adapted to communicate with said core network portion over a predetermined mobile network interface and connected to said plurality of local base stations,

wherein all said mini-cells are assigned a common identifier associated with said access network controller, said common identifier identifying a single cell address known to said core network, said single cell address being a cell address of said public mobile network assigned to said access network such that from a perspective of said core network, said access network is a single cell of said public mobile network, and

wherein said access network controller is adapted

to receive a handover request containing said common identifier from said core network,

to respond to said handover request by assigning a handover reference to said request, and

to setup a communication path between said mobile station and said core network when a message containing said handover reference is received from said mobile station.

2. (Currently amended) The access network of 1, wherein said plurality of local base stations are adapted to communicate said common identifier to said ~~mobile-terminal~~ station.

Claim 3 (Canceled)

4. (Previously presented) The access network of 1, wherein said common identifier identifies a channel frequency utilised by said plurality of local base stations.

5. (Previously presented) The access network of 1, wherein said common identifier identifies a base station address common to all of said plurality of local base stations.

Claim 6 (Canceled)

7. (Previously presented) The access network of 1, further comprising a broadband network connecting said plurality of local base stations with said access network controller.

Claims 8-14 (Canceled)

15. (Currently amended) A method for handing over a communication with a mobile station from a cell of a public mobile network to a mini-cell of an unlicensed-radio access network connected to said public mobile network, said public mobile network comprising an access portion including a base station defining said cell and a core network portion including a switching control part connected to said access portion, said unlicensed-radio access network comprising a plurality of local base stations each defining a mini-cell and adapted to communicate with said mobile station via an unlicensed-radio interface and an access network controller connected to said plurality of local base stations and adapted to communicate with said core network portion of said public mobile network, said method comprising:

allocating a common identifier to all mini-cells associated with said access network controller said common identifier identifying a single cell address known to said core network, said single cell address being a cell address of said public mobile network assigned to said access network such

that from a perspective of said core network, said access network is a single cell of said public mobile network;

said access network controller responding to a handover request message containing said common identifier received from said core network portion by generating a handover reference and transmitting said handover reference in a handover acknowledgment message to said core network portion; and

said access network controller receiving said handover reference from said mobile station via said local base station and setting up a communication path between said mobile station and said core network in response to said received handover reference.

16. (Previously presented) The method of 15, further comprising:

said access portion of said public mobile network receiving said common identifier from said mobile station, identifying said access network controller using said common identifier and generating said handover request message addressed to said access network controller via said switching control part.

17. (Previously presented) The method of 15, further comprising:

said mobile station, upon receipt of said common identifier, transmitting a report to said access portion adapted to trigger handover irrespective of other frequencies received by said mobile station.

18. (Currently amended) An access network controller for use in an access network adapted to communicate with a mobile station terminal and a core network portion of a public licensed mobile network, said access network controller being adapted to communicate with said core network portion over a predetermined mobile network interface and being connected to a plurality of access points, each defining a mini-cell, wherein said access network controller is adapted to communicate with said mobile station terminal located in a respective mini-cell of an access point via an unlicensed-radio interface between said mobile station terminal and said access point, wherein said access network controller is adapted

to receive a handover request containing a common identifier from said core network, said common identifier being associated with said access network controller and assigned to all mini-cells connected with said access network controller, said common identifier identifying a single cell address known to said core network, said single cell address being a cell address of said public licensed mobile network assigned to said access network such that from a perspective of said core network portion, said access network is a single cell of said public licensed mobile network;

to respond to said handover request by assigning a handover reference to said handover request; and

to set up a communication path between a said mobile station and said core network when a message containing said handover reference is received from said mobile station.

Claim 19 (Canceled)

20. (Previously presented) The access network controller of 18, wherein said access network controller is connected to said plurality of access points via a broadband network.

21. (Currently amended) In an access network controller forming part of an unlicensed radio access network, said access network controller being connected to a plurality of access points each defining a mini-cell and being adapted to communicate with mobile stations located in said mini-cells via said access points and to communicate with a core network portion of a public licensed mobile network, a method of handling handover of a communication with a mobile station from a cell of said public licensed mobile network to a mini-cell of said unlicensed-radio access network, said method comprising:

said access network controller receiving a handover request message from said core network portion, said handover request message containing a common identifier for identifying all mini-cells associated with said access network controller, said common identifier identifying a single cell address

known to said core network portion, said single cell address being a cell address of said public licensed mobile network assigned to said access network such that from a perspective of said core network portion, said access network is a single cell of said public licensed mobile network;

said access network controller responding to said handover request message by generating a handover reference and transmitting said handover reference in a handover acknowledgment message to said core network portion;

said access network controller receiving said handover reference from said mobile station via ~~said local base station~~ an access point corresponding to said mini-cell; and

said access network controller setting up a communication path between said mobile station and said core network in response to said received handover reference.

22. (New) The access network of claim 1,

wherein said common identifier includes an allocated frequency channel identifier which identifies a frequency channel of said public mobile network allocated to said access network such that from said perspective of said core network, said frequency channel is allocated to said single cell of said public mobile network,

wherein said allocated frequency channel identifier is included in a measurement list of frequency channels identifiers provided to said mobile station by a base station subsystem of said public mobile network, said measurement list identifying frequency channel(s) for said mobile station to measure,

wherein each of said plurality of local base stations is adapted to provide said allocated frequency channel identifier to said mobile station when a radio link with said mobile station is established, said radio link being established over said unlicensed-radio interface, and

wherein an indication of said allocated frequency channel identifier is included in a measurement report sent from said mobile station to said core network.

23. (New) The access network of claim 22,

wherein said common identifier further includes a base station identifier of said public mobile network assigned to said access network such that from said perspective of said core network, said base station identifier corresponds to said single cell of said public mobile network,

wherein each of said plurality of local base stations is further adapted to provide said base station identifier to said mobile station when said radio link with said mobile station is established, and

wherein an indication of said base station identifier is further included in said measurement report sent from said mobile station to said core network.

24. (New) The method of claim 15, wherein said common identifier includes an allocated frequency channel identifier which identifies a frequency channel of said public mobile network allocated to said access network such that from said perspective of said core network, said frequency channel is allocated to said single cell of said public mobile network, said method further comprising:

said mobile station receiving a measurement list of frequency channel identifiers from said base station of said access portion, said measurement list including said allocated frequency channel identifier;

said local base station corresponding to said mini-cell of said access network establishing a radio link with said mobile station over said unlicensed-radio interface;

said local base station providing said allocated frequency channel identifier to said mobile station using said radio link; and

said mobile station sending a measurement report to said core network portion, said measurement report including an indication of said allocated frequency channel identifier.

25. (New) The method of claim 24, wherein said common identifier further includes a base station identifier of said public mobile network assigned to said access network such that from said perspective of said core network, said base station identifier corresponds to said single cell of said public mobile network, said method further comprising:

said local base station further providing said base station identifier to said mobile station using said radio link; and

said mobile station further including an indication of said base station identifier in said measurement report.

26. (New) The access network controller of claim 18, wherein said common identifier includes an allocated frequency channel identifier which identifies a frequency channel of said public licensed mobile network allocated to said access network such that from said perspective of said core network portion, said frequency channel is allocated to said single cell of said public licensed mobile network, and

wherein said allocated frequency channel identifier is included in a measurement list of frequency channels identifiers provided to said mobile station by a base station subsystem of said public mobile network, said measurement list identifying frequency channel(s) for said mobile station to measure.

27. (New) The access network controller of claim 26, wherein said common identifier further includes a base station identifier of said public licensed mobile network assigned to said access network such that from said perspective of said core network portion, said base station identifier corresponds to said single cell of said public licensed mobile network.

28. (New) The method of claim 21,
wherein said common identifier includes an allocated frequency channel identifier which identifies a frequency channel of said public licensed mobile network allocated to said access network such that from said perspective of said core network portion, said frequency channel is allocated to said single cell of said public licensed mobile network, and

wherein said allocated frequency channel identifier is included in a measurement list of frequency channels identifiers provided to said mobile station by a base station subsystem of said public mobile network, said measurement list identifying frequency channel(s) for said mobile station to measure.

29. (New) The method of claim 28, wherein said common identifier further includes a base station identifier of said public licensed mobile network assigned to said access network such that from said perspective of said core

network portion, said base station identifier corresponds to said single cell of
said public licensed mobile network.